



FIELDWORK INSTRUCTIONAL DELIVERY AND PERFORMANCE IN OCCUPATIONAL THERAPY EDUCATION

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ABSTRACT

The COVID-19 pandemic forced graduate occupational therapy (OT) education programs to shift in person experiences to remote formats. Despite this shift, OT students were still expected to successfully complete their level II fieldwork (FW) experiences in person to graduate. Face-to-face Level I FW experiences are an Accrediting Council of Occupational Therapy Education (ACOTE) requirement and meant to prepare OT students for their level II FW experiences were forced to shift to remote formats as well. To examine the effects of adult level I FW instruction methodologies on OT student performance during adult level II FW. A correlational quantitative design was used to assess OT student performance in certain skill areas, as well as their overall final score during their level II FW experiences as measured by their FW performance evaluation scores. Data analysis was conducted in three parts. All study variables were presented using descriptive statistics. Second, bivariate tests were used to examine the direct relationships between the independent variable and the dependent variables. Third, a multivariate analysis was used to analyze each dependent variable modeled as a function of the independent variable using regression analysis, while controlling for the effect of the appropriate covariate variable. The results showed no statistically significant difference in OT student level II FW performance in the individual skill areas assessed, or in the overall final scores amongst the two study groups. This study supports the efficacy of using simulation within a graduate OT program to complete their level I fieldwork experiences and prepare them for their level II FW experiences. The findings of this study also challenge the notion that graduate OT students require a face-to-face clinical experience to prepare them for their level II fieldwork experiences fully.

KEYWORDS: Occupational therapy education, health science education, occupational therapy education, simulation, simulation education, fieldwork experiences.

Introduction

The COVID-19 pandemic brought about significant changes to education. Instruction delivery that was traditionally done in person was forced to shift to a more remote format because of COVID-19 restrictions¹. According to the National Center for Education Statistics², prior to the beginning of the coronavirus pandemic in fall of 2019, over 57% of post-baccalaureate college students had not enrolled in an online course or participated in any type of virtual, hybrid, or blended learning. This was especially true for healthcare-based education programs which, prior to the start of the pandemic, had seen little change in pedagogy as the development of skills had always involved hands on practice³. In a survey of 1,289 students and faculty members in a healthcare education program, 41% of respondents reported having little or no online teaching/learning experience before the pandemic⁴.

Despite the shift to a remote education format, occupational therapy (OT) students were still expected to successfully complete the required number of level II fieldwork hours to graduate. While completing level II fieldwork, OT students were tasked with evaluating and treating an array of complex clients in dynamic, fast paced healthcare settings. Therefore, the manner in which OT students are trained to address these complex patient needs can influence their success during their level II fieldwork experiences⁵.

Completion of a master's or doctoral occupational therapy degree requires the student to receive a passing grade in each of the clinical application courses in the program. Clinical application courses are designated by the patient population they focus on. The patient populations on which these courses focus include adulthood, pediatrics, geriatrics, and mental health. In the clinical applications in adulthood course, OT students learn the theory and rationale of evidence-based assessment and intervention for physical, developmental, perceptual/cognitive, and psychosocial and neurological dysfunctions in the context of middle lifespan⁶.

In addition to didactic course work, each clinical application course also requires the completion of a set number of level I fieldwork hours. Level I fieldwork hours are meant to allow students to apply theory in a clinical context as well as prepare them for their more intensive level II fieldwork experiences. Traditionally in the past, the level I fieldwork hours were captured in person through hands on face-to-face clinical experiences. This changed as a result of the COVID-19 pandemic, and healthcare institutions were tasked with shifting the in-person experiences to a more remote format⁷.

The level II fieldwork experience is an integral part of the overall OT student education process. It involves the application of theory and techniques acquired through didactic learning, lab coursework, and the students' level I fieldwork experience⁸. During their level II fieldwork experience, OT students are

expected to apply practice skills consistent with their scope of practice. The experience provides the student with the opportunity to carry out professional responsibilities under supervision and to prepare for entry level clinical practice⁸.

Although the Accreditation Council of Occupational Therapy Education (ACOTE) has indicated that virtual simulation experiences are an acceptable method to deliver level I fieldwork experiences, there is limited research available in this area⁸. While there is research on the use of clinical simulation as an effective instructional method in healthcare, there is limited research on what effects the use of simulation as a substitute for clinical experiences during level I fieldwork has on occupational therapy student performance during level II fieldwork. The intent of this quantitative research study was to determine if there is a correlation between adult level I fieldwork instruction delivery methodology and OT student performance in level II fieldwork. The level fieldwork instruction delivery methods that were examined were simulation only and a hybrid model which consisted of simulation combined with live clinical experience.

Problem:

As a result of the COVID-19 pandemic, level I fieldwork delivery methods in graduate OT programs were forced to move from traditional face-to-face activities to remote activities. These remote activities included the use of simulation in a variety of formats in an attempt to recreate clinical scenarios. The problem is that while graduate OT educators may believe that simulation activities are equally as effective as traditional face-to-face experiences⁹, it is uncertain what effect the use of simulation only as a means of adult level I fieldwork delivery will have on graduate OT students' performance in their adult level II fieldwork experiences.

While the use of simulation experiences may be a simple solution to the problem of completing the required fieldwork hours needed to fulfill course requirements during the COVID pandemic, there is evidence to suggest that the use of simulation only as an instruction delivery model may have a limited impact on several OT student performance areas. Because of this, students may not be adequately prepared for their level II fieldwork. There is also evidence that shows simulation use may not have a strong impact on the development of the clinical reasoning or the critical thinking skills that are necessary for success in level II fieldwork¹⁰. Students have also reported feeling that simulation alone was not enough to adequately prepare them for their level II fieldwork¹⁰.

Despite ACOTE indicating that virtual simulation experiences are an acceptable method of level I fieldwork instruction delivery, the research in this area remains limited⁸. There is established research examining the perceptions of clinical simulation to prepare students for level II fieldwork¹⁰. There is also evidence to show that OT students prefer a hybrid model of simulation with clinical experiences during level I fieldwork to prepare them for level II fieldwork¹¹. However,

the actual effects of the instruction delivery methods used during adult level I fieldwork on occupational therapy student performance in certain skill areas during adult level II fieldwork are virtually unknown.

Purpose:

The purpose of this correlational quantitative study is to examine the effects of the instruction delivery methods used during adult level I fieldwork on OT student performance in certain skill areas during adult level II fieldwork. The instruction methods that were examined was the use of simulation only as well as a hybrid model consisting of simulation use combined with live clinical experience. The skill areas of safety, ethical adherence, and the ability to articulate OT beliefs to clients were chosen to be examined because there is direct alignment between satisfactory performance in those areas and successful completion of both level I and level II fieldwork.

Examining the effects of using simulation only or a hybrid model of simulation combined with live clinical experience during level I adult fieldwork may provide valuable insight into how occupational therapy programs prepare their students for level II adult fieldwork rotations and beyond. By gaining a better understanding of the relationship between level I fieldwork instruction delivery and level II fieldwork OT student performance, OT programs may be able to refine and improve level I fieldwork experiences resulting in increased student satisfaction, engagement, and overall success in level II fieldwork.

The central question of this study was: Is there a statistically significant difference in level II fieldwork performance for occupational therapy students who completed their adult level I fieldwork experience through simulation or through a hybrid model of simulation and live clinical experience? Additional questions for this research related to their experiences in level I fieldwork are as follows:

RQ1: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in basic safety skill performance scores during adult level II fieldwork?

RQ2: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in occupational therapy beliefs articulation scores during adult level II fieldwork?

RQ3: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in ethical code adherence scores during adult level II fieldwork?

RQ4: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in overall final scores during adult level II fieldwork?

Hypotheses

H1: Students that receive Hybrid training during their adult level I fieldwork in a graduate occupational therapy program will not evidence a statistically significant difference in basic safety skill performance scores during adult level II fieldwork relative to students that receive Simulation Only.

H2: Students that receive Hybrid training during their adult level I fieldwork in a graduate occupational therapy program will not evidence a statistically significant difference in occupational therapy beliefs articulation scores during adult level II fieldwork relative to students that receive Simulation Only.

H3: Students that receive Hybrid training during their adult level I fieldwork in a graduate occupational therapy program will not evidence a statistically significant difference in ethical code adherence scores during adult level II fieldwork relative to students that receive Simulation Only.

H4: Students that receive Hybrid training during adult level I fieldwork in a graduate occupational therapy program will not evidence a statistically significant difference in overall final scores during adult level II fieldwork relative to students that receive Simulation Only.

Materials and Methods:

This study used quantitative correlational design to assess OT student performance in certain skill areas during their adult level II fieldwork experiences based on the instruction methodology used during their adult level I fieldwork experience. For the purposes of this study, data was collected from completed AOTA fieldwork performance evaluation and subjected to statistical treatment to determine if any differences in effectiveness exist between the two instruction methodologies being investigated. The methodology is feasible as student scores are accessible for data collection through an online platform of current and former students in the OT program.

Participants and Sampling. The target population for this study were current and former master's and doctoral graduate OT students who were enrolled in either a

flex or residential program at a private for-profit university. The OT students also completed their adult level I fieldwork experience through either simulation only or the hybrid models being investigated. The sample population used in this study was from a private for-profit university in the United States with a graduate occupational therapy program located in Florida. The sample population consisted of OT students who completed their adult level I fieldwork in one of the terms between Spring 2019 and Summer 2022. An estimated 250 OT students completed their adult level I fieldwork during this study period. A convenience sample of these estimated 250 OT students was utilized within this study. Similar studies assessing similar instruction methodologies on healthcare student performance have included sample sizes ranging from 28 to 13512,13.

Demographic information for the participants was obtained to correlate assessment data collected. Assessment data was collected from the level I and II fieldwork performance evaluations. In terms of statistical power, the G*power software indicated that an approximately medium effect size effect (Cohen's $f=0.15$) would be detected using a multiple linear regression model with 4 predictors with power set at .80 and alpha set at .05, using a sample size of 85 study participants. Thus, the current projected sample of 250 study participants would provide approximately sufficient statistical power for the analysis.

Instrument:

The FWPE is used by fieldwork educators to evaluate occupational therapy student entry level competency development during level I and level II fieldwork⁸. The FWPE underwent revision in 2018 resulting in updated scoring items that better represent recent changes to occupational therapy education and practice. The updated changes were validated using a rigorous two-stage process with the goal being to produce an updated tool with strong psychometric properties reflecting current occupational therapy practice and education¹⁴. The first phase involved the use of cognitive interviewing aimed at establishing initial validity evidence for item content. The second phase used a quantitative approach to evaluate evidence of internal structure, response processes, fairness in testing, and precision.

Data Collection:

Archival retrospective data collection consisted of several different sources which were compared to determine any statistically significant differences. The archival data was collected retrospectively from graduate OT residential and flex program. It consisted of students who completed their adult level I fieldwork using either a simulation only or a hybrid model between the spring term of 2019 and summer term 2022. The data was collected manually from one source. The source was EXXAT, which houses all level I and level II fieldwork performance evaluations. The data collection process is described as follows.

The independent variables for this study included the two instruction methodologies used during adult level I fieldwork in the adulthood clinical application course: simulation only and the hybrid model of simulation combined with clinical experience. Participants in this study completed one of the two instruction methodologies.

FWPE Data Collection

The dependent variables included the individual participant scores from the adult level I and adult level IIa and IIb fieldwork performance evaluations for the categories of safety, ethical adherence, and articulation of OT values and beliefs as well as the overall performance score. The FWPE scores were extracted from EXXAT by a secondary OT program faculty member who is a part of the clinical education team and provided the data coded to the primary investigator through a password encrypted online drive. Data collection from EXXAT also included participant demographic information (age, gender, race...etc.).

Results:

Research Question 1: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in basic safety skill performance scores during adult level II fieldwork?

This research question investigated whether the dependent variable, level II fieldwork basic safety skills performance scores as rated on the AOTA fieldwork performance evaluation, differed at a statistically significant level among the independent variable of the instruction methodology used during OT student's adult level I fieldwork experience. The hypothesis was not supported as a statistically significant difference did not exist between the different instruction methodology groups basic safety skills performance scores in either their adult level IIa fieldwork performance evaluation scores ($B=.49$, $SE=.30$, Wald $X^2=2.54$, $OR=1.62$ (95% $CI=.90-2.95$), $p=.11$) or their level IIb fieldwork performance evaluation scores ($B=.53$, $SE=.42$, Wald $X^2=1.56$, $OR=1.69$ (95% $CI=.74-3.86$), $p=.21$) when controlled for level I fieldwork basic safety skills scores.

These findings demonstrate that there was no difference in occupational therapy student performance during level II fieldwork as rated by their AOTA fieldwork performance evaluation scores in the area of basic safety skill performance between students who completed their adult level I fieldwork experience using the simulation only method and between those that completed a hybrid model. The results suggest that the use of simulation only is equally as effective at pre-

paring OT students in basic safety skill performance during level II fieldwork as is the hybrid method. These findings are also relevant because they go against conventional beliefs, which suggest that students require a face-to-face experience to adequately prepare them for the basic safety skills needed to complete level II fieldwork experiences¹¹. This includes OT students' abilities to adhere consistently to safety regulations, anticipate potentially hazardous situations, and take steps to prevent accidents⁸.

Research Question 2: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in occupational therapy beliefs articulation scores during adult level II fieldwork?

This research question investigated whether the dependent variable, level II fieldwork occupational therapy beliefs articulation performance scores as rated on the AOTA fieldwork performance evaluation, differed at a statistically significant level among the independent variable of the instruction methodology used during OT student's adult level I fieldwork experience. The hypothesis was not supported as a statistically significant difference did not exist between the different instruction methodology groups' final occupational therapy beliefs articulation performance scores in either their adult level IIa fieldwork performance evaluation scores ($B=.36$, $SE=.31$, Wald $X^2=1.34$, $OR=1.43$ (95% $CI=.78-2.63$), $p=.25$) or their level IIb fieldwork performance evaluation scores ($B=.58$, $SE=.40$, Wald $X^2=2.09$, $OR=1.79$ (95% $CI=.78-2.63$), $p=.15$) when controlled for level I fieldwork articulation of occupational therapy beliefs performance evaluation scores.

These findings demonstrate that there was no statistically significant difference in occupational therapy student performance during level II fieldwork in the AOTA fieldwork performance evaluation area of occupational therapy beliefs articulation between students who completed their adult level I fieldwork experience using the simulation only method and between those that completed a hybrid model.

The results suggest that the use of simulation only is equally as effective at preparing OT students in their ability to articulate occupational therapy during level II fieldwork as is the hybrid method of simulation combined with a face-to-face clinical experience.

These findings are also relevant because they go against conventional beliefs, which suggest that students require a face-to-face clinical experience to adequately prepare them for the ability to articulate occupational therapy beliefs needed to successfully complete their level II fieldwork experiences¹¹. This includes OT students' abilities to articulate the values and beliefs of the occupational therapy profession clearly and confidently to clients, families, significant others, colleagues, service providers, and the public⁸.

Research Question 3: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in ethical code adherence scores during adult level II fieldwork?

This research question investigated whether the dependent variable, adult-level II fieldwork ethical code adherence performance scores as rated on the AOTA fieldwork performance evaluation, differed at a statistically significant level among the independent variable of the instruction methodology used during OT student's adult level I fieldwork experience. The hypothesis was not supported as a statistically significant difference did not exist between the different instruction methodology groups' final ethical code adherence performance scores in either their adult level IIa fieldwork performance evaluation scores ($B=.42$, $SE=.31$, Wald $X^2=1.88$, $OR=1.53$ (95% $CI=.83-2.79$), $p=.17$) or their level IIb fieldwork performance evaluation scores ($B=.65$, $SE=.42$, Wald $X^2=2.43$, $OR=1.92$ (95% $CI=.85-4.37$), $p=.12$) when controlled for level I fieldwork ethical code adherence performance evaluation scores.

These findings demonstrate that there was no difference in occupational therapy student performance during level II fieldwork in the AOTA fieldwork performance evaluation area of ethical code adherence between students who completed their adult level I fieldwork experience using the simulation only method and between those that completed a hybrid model. The results suggest that the use of simulation only is equally as effective at preparing OT students for ethical code adherence performance during level II fieldwork as is the hybrid method of simulation combined with a face-to-face clinical experience. These findings are also relevant because they go against conventional beliefs, which suggest that healthcare students would benefit from a face-to-face clinical experience to adequately prepare them for the ability to adhere to the ethical code needed to successfully complete level II fieldwork experiences¹¹. This includes OT students' abilities to adhere consistently to the American Occupational Therapy Association's Code of Ethics and the site's policies and procedures⁸.

Research Question 4: Will students that receive Hybrid vs. Simulation Only training during their adult level I fieldwork in a graduate occupational therapy program evidence a statistically significant difference in overall final scores during adult level II fieldwork?

This research question investigated whether the dependent variable, adult level II fieldwork overall final scores as rated on the AOTA fieldwork performance evaluation, differed at a statistically significant level among the independent variable of the instruction methodology used during OT student's adult level I fieldwork experience. The hypothesis was not supported as a statistically significant difference did not exist between the different instruction methodology groups' overall final scores in either their adult level IIa fieldwork performance evaluation scores ($B=-1.75$, $SE=2.18$, $\beta=-.06$, $p=.43$) or their level IIb fieldwork performance evaluation scores ($B=-1.59$, $SE=2.72$, $\beta=-.06$, $p=.56$) when controlled for level I fieldwork overall final performance evaluation scores.

These findings demonstrate that there was no statistically significant difference in the overall final scores of the AOTA level II fieldwork performance evaluation between OT students who completed their adult level I fieldwork experience using the simulation only method and those that completed a hybrid model of simulation combined with face-to-face clinical expertise. The results suggest that the use of simulation only is equally as effective at preparing OT students for successful completion of their level IIa and level IIb fieldwork experiences as is the hybrid method of simulation combined with a face-to-face clinical experience. These findings are relevant because they go against conventional beliefs, which suggest that OT students require a face-to-face experience to adequately prepare them for their level II fieldwork experiences¹¹. Furthermore, these findings suggest that the simulation activities completed during OT students' adult level I fieldwork experiences serve as adequate experiential learning experiences consistent with the central theories utilized in this research study.

Discussion:

Findings from this study offer multiple implications for practice when providing education to graduate occupational therapy students. In addition, based on the existing literature in other fields, the findings from this study may also cross into other healthcare education programs teaching comparable to clinical application.

First, the study supports the efficacy of utilizing experiential learning and simulation use within a graduate OT classroom setting to complete their level I fieldwork experiences. This study effectively supports educators in utilizing more simulation-based experiential learning activities to prepare OT students for their level II fieldwork experiences.

Secondly, the findings of this study challenge the notion that graduate OT students require a face-to-face clinical experience to prepare them for their level II fieldwork experiences fully. This provides graduate occupational therapy programs and their educators with options as it relates to level I fieldwork experiences. The use of simulation as an experiential learning activity is an effective means of completing the ACOTE requirements for level I fieldwork. The use of simulation as an effective level I fieldwork experience is also beneficial given the shortage of clinical sites willing to accept level I, fieldwork students because of the COVID-19 pandemic.

Finally, the results of this study are consistent with findings from studies completed with students in other OT courses and other healthcare programs examining the use of simulation as an instructional methodology. There is the implication that educators in other graduate occupational therapy courses and healthcare programs utilize simulation activities as a form of experiential learning in their classrooms to prepare OT students for their level II fieldwork experiences. The findings from this study also warrant the consideration of occupational therapy program directors to encourage the use of simulation activities as an instruction methodology to enhance OT student skillset and prepare them for their level II fieldwork experiences.

Recommendations for Future Practice:

Further research is warranted to investigate the effects of level I fieldwork instruction methodologies on occupational therapy student performance during level II fieldwork. It is first recommended that the sample size be increased and assessed across multiple universities and regions to challenge the generalizability of the results from this study. Results from this expanded study may help to differentiate better the results between each of the instruction methodologies of simulation only and a hybrid of simulation to determine better relationships between the groups and their level II fieldwork performance. Future studies may also assess the effectiveness of various instruction methodologies in other healthcare programs such as medicine, nursing, or physical therapy.

This study utilized a quantitative correlational design. Future research may consider varying the research design to expand on the current findings. The potential to utilize a randomized control study that assesses the effectiveness of various instruction methodologies in a pre-post design could provide further results to delineate between the differences in the simulation only and hybrid model groups. A future qualitative assessment of the level I fieldwork instruction methodologies could create open-ended questions, which would help to strengthen the data from this current quantitative study.

Conclusions:

The restrictions brought about by the COVID-19 pandemic required graduate occupational therapy programs to make significant changes to its instruction

delivery methods. This included shifting their required level I fieldwork experiences from traditional face-to-face clinical experiences to more simulation-based methodologies. Although the ACOTE has indicated that simulation experiences were an acceptable method of delivering level I fieldwork experiences, there was limited research available on its effects on OT student performance during level II fieldwork (AOTA, 2018).

This quantitative research study intended to determine if there is a correlation between adult level I fieldwork instruction delivery methodology and OT student performance in level II fieldwork. The fieldwork instruction methodologies examined were simulation only or a more traditional hybrid model consisting of simulation combined with a face-to-face clinical experience—the study assessed for possible differences in the means of the dependent variables between the two groups. The study also evaluated the possible relationship that exists between the dependent variable. The study showed no statistically significant difference in OT student-level II fieldwork performance in basic safety skill performance, ethical code adherence performance, articulation of OT beliefs performance, or overall final scores amongst the two-level I fieldwork instruction methodologies examined.

This study suggests that simulation only level I fieldwork experiences may be just as effective as level I fieldwork experiences that include a face-to-face clinical experience in preparing OT students for their level II fieldwork experiences. Further, the results suggest the efficacy of simulation-based experiential learning activities in preparing OT students for their level II fieldwork experiences. Further research is suggested, including investigating a more significant population across universities and regions, a qualitative assessment, and an investigation of a different population of another healthcare professional program to generalize the existing findings further.

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